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ABSTRACT

Interviews with 725 North Carolina farm operators revealed: the extent of economic, social, and emotional stresses on farm families; perceptions of the future of agriculture; the degree of reliance on off-farm income; financial management practices; and programs needed from the Agricultural Extension Service. Almost 66% viewed their future in farming as doubtful. Although most farmers planned to keep operations at about the same level over the next 2 years, 9% indicated plans to leave farming (the majority planning to retire). A majority of farmers thought friends, neighbors, and human service agencies were providing adequate support. Reported levels of personal stress were higher among farmers who reported 200 or more days of on-farm work compared to those who reported fewer days. Although over 66% reported at least one potential source of retirement income (usually social security benefits), households most dependent on farm income were less likely to have a potential source. Most farm operators reported keeping financial records, primarily income and cash flow statements and balance sheets. The North Carolina Agricultural Extension Service was the most-mentioned information source for farm record-keeping advice. Respondents indicated a strong demand for financial management programs from the North Carolina Agricultural Extension Service. (NEC)

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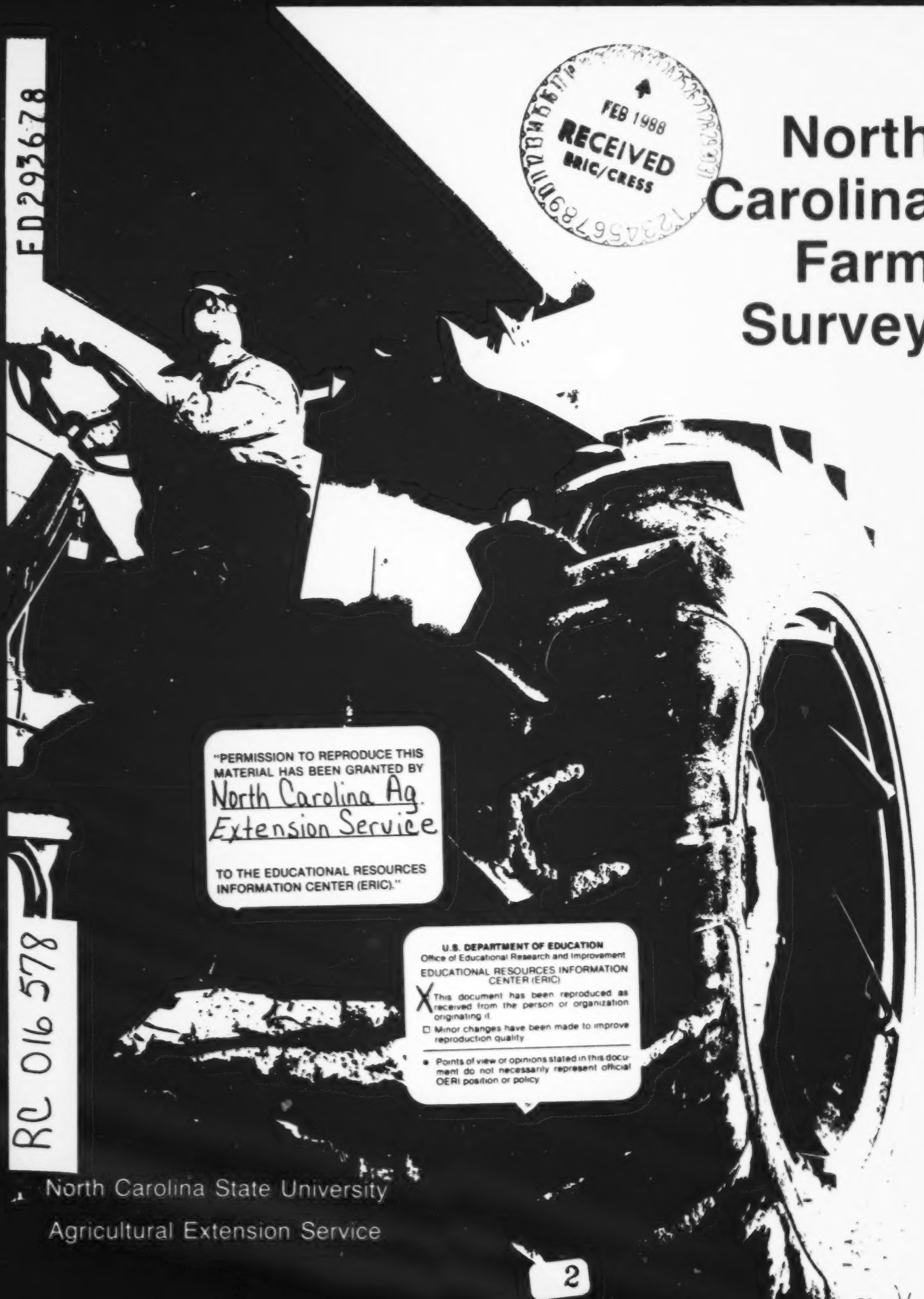
North Carolina Farm Survey



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North Carolina Farm Survey

A cooperative project of the departments of Sociology and Anthropology, Economics and Business, and Extension Home Economics, and the North Carolina Agricultural Extension Service, North Carolina State University, Raleigh.

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Summary

1 In January and February 1987, 976 randomly selected North Carolina farm operators were contacted by telephone to obtain information on farm families' reactions to changing socioeconomic conditions in agriculture. Of these 976 persons, 892 completed an interview, 725 were currently farming, and 167 had left agriculture. Only 84 persons refused to participate in the study or terminated the interview before completion. The random sample of telephone numbers was drawn by the North Carolina Crop and Livestock Reporting Service from a list of about 64,000 farm operators with telephones.

2 Almost two-thirds of the sample of North Carolina farm operators viewed their future in farming as doubtful. In addition, a clear majority of farmers did not see farming as a viable career option for the next generation. However, two-thirds also indicated that if they could go back and start over, they would still go into farming. The apparent difference in responses may be related to perceptions of farming as an income-producing occupation versus perceptions of farming as a way of life.

3 Although most farmers planned to keep their operations at about the same level over the next two years, 9 percent indicated plans to leave farming. A majority of those planning to leave farming were planning to retire, but some planned to exit for other employment.

4 Perceptions of stress within agricultural communities were high, but a majority of farmers thought friends, neighbors, and human service agencies were providing adequate support. The reported levels of personal stress were somewhat higher among farmers who reported 200 or more days of on-farm work compared to those who reported fewer days.

5 Although more than two-thirds of all respondents reported at least one potential source of retirement income, households most dependent on farm income were less likely to have a potential source. The most often mentioned potential source for all farm families was social security benefits.

6 Most farm operators reported keeping financial records for their farms. The most commonly used financial tools were income and cash flow statements and balance sheets. The North Carolina Agricultural Extension Service was the most-mentioned information source for farm record-keeping advice.

7 Farm household financial record keeping also was reported to be handled primarily by the farm operator. One-fourth of farm families reported developing a spending plan or family budget, and most of these monitored expenses and compared them to the budget.

8 Responses from the farmers indicated a strong demand for financial management programs from the North Carolina Agricultural Extension Service. Retirement and estate planning appear to be critical educational needs for the farm population. The heavy reliance on off-farm income sources resulting largely from changes in agricultural policy and industrial growth offers the Extension Service expanded opportunities for programs in rural economic and community development.

Overview of Farm and Farmer Characteristics

Although much has been written about the effects of the agricultural recession on individual farmers and their communities, relatively little information has been gathered on a broad cross section of North Carolina farmers and farm families. The current situation in agriculture in our state has intensified the need for accurate information. Thus the overall goal of this project was to provide useful information on North Carolina farmers and farm families to agricultural policymakers, program planners, and other decision makers.

Specific objectives of the 1987 survey of farm operators in North Carolina were to obtain information on (1) the extent of economic, social, and emotional stresses on farm families, (2) perceptions of the future of agriculture, (3) the degree of reliance on off-farm income, (4) financial management practices, and (5) programs needed from the Agricultural Extension Service.

To obtain this information a random sample of farm operators across the state was drawn from a list provided by the North Carolina Crop and Livestock Reporting Service. A total of 976 respondents were contacted by telephone during January and February 1987. The outcomes are reported in Table 1. Of the 892 persons who completed the interview, 725 were current farm operators and 167 had left agricultural production. All the data reported are from the 725 respondents who were farming in the first two months of 1987. All questions referred to 1986 farm operations and conditions.

Responses from the questionnaire were cross-tabulated by the eight North Carolina Agricultural Extension Service districts and by three categories of income percentage derived from farming (greater than 90 percent, 45 to 90 percent, and less than 45 percent). Chi-square and difference of means tests were conducted to reveal patterns of responses with statistically significant differences among the districts and three income categories.

Table 1. 1987 Farm Survey Sample Disposition

Sample Disposition	Number	Percentage
Completed interview	892	91.4
Currently farming 725		
Not currently farming 167		
Refused to participate	70	7.2
Terminated interview	14	1.4
Total	976	100.0

Demographic Characteristics of Farm Operators

The most complete description of North Carolina farms and farm operators currently available is the 1982 census of agriculture. Comparison of demographic data from the 1987 sample with those from the 1982 census (Table 2) reveals several similarities. In both, farm operators are between 92 and 94 percent male (6 to 8 percent female). About

Table 2. Demographic Characteristics of Respondents from the 1987 Survey and from the 1982 Census of Agriculture

	1987 Sample	1982 Census
	(percentage of respondents)	
Sex		
Male	92	94
Female	8	6
Race		
White	92	93
Black or other	8	7
Age		
Under 25 years	0.3	2
25 to 34 years	7	12
35 to 44 years	16	19
45 to 54 years	26	22
55 to 64 years	32	25
65 years and over	19	20
Average age	54 years	52 years
Labor		
No off-farm work	42.2	42.5
Any off-farm work	57.8	57.5
1 to 99 days	15.7	18.8
100 to 199 days	23.9	14.9
200 or more days	60.4	66.3
Farm Size		
1-9 acres	9.9	9.2
10-49 acres	32.7	32.0
50-99 acres	18.6	22.6
100-219 acres	19.1	20.2
220-499 acres	9.9	10.8
500-1,999 acres	9.1	4.8
2,000 acres or more	0.7	0.4

92 percent are white; black and other races constitute about 8 percent. However, there were some differences between the two data sets, primarily in age distribution. The 1987 survey respondents were somewhat older, perhaps reflecting a declining number of young people entering farming or increased numbers of younger persons leaving agricultural production. The average age of respondents in the 1987 sample was 54 compared to 52 for the 1982 agriculture census average.

Although the percentage of farm operators reporting any off-farm work is about the same in the two data sets, there was a difference in the number of days worked. The 1987 sample showed a higher percentage in the category reporting 100 to 199 days of off-farm work per year and a lower percentage of respondents in the categories reporting 200 or more days and 1 to 99 days of off-farm work than did the 1982 census. Differences in the size distribution of farms between the 1982 and 1987 sample may reflect national trends toward a greater number of smaller farms (1 to 49 acres) and larger farms (500 acres and above) but fewer midsize units.

Farm Acquisition

There were statistically significant differences among districts and income categories in the ways in which the respondents acquired their farms (Table 3). Purchasing a farm was the most likely way of acquiring one in all but the northeastern (NE) district. In that district a larger percentage of operators rented rather than purchased their farms. More than half the farmers in the northwestern (NW), southwestern (SW), and western (WE) districts purchased their current farms. Cross-tabulating responses on farm acquisition by percentage of income derived from farming demonstrated that operators who were either most dependent or least dependent on income from farming were more likely than the middle income category to have purchased the farm.

Farm Size

Reported farm size reflected the diversity of North Carolina agriculture. The average farm size was 186 acres and the median size was 65 acres. Most farms were relatively small — 66 percent had 100 acres or less. Generally, the operators most dependent on farm income were more likely to have large farms (Figure 1). Size varied considerably by Extension Service district. More than half the farms in the northern piedmont, northwestern, and western districts had less than 50 acres, compared to only 13 percent in the northeastern district. More than one-quarter of farms in the northeastern district had more than 500 acres. Figure 2 shows the average farm size by Extension Service district.

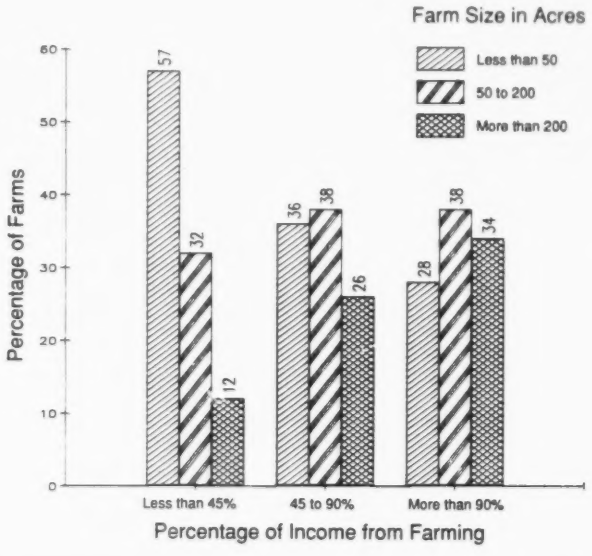


Figure 1. Distribution of farms by size and percentage of income derived from farming.

Table 3. Farm Acquisition Method by District

Acquisition Method	Extension Service District*							
	NC	NE	NP	NW	SC	SE	SW	WE
	(percentage of respondents)							
Purchased	38	22	41	53	41	32	65	53
Inherited	19	18	30	21	19	25	17	14
Rented	20	27	12	6	15	16	1	7
Managed for other family members	1	0	4	3	0	3	1	2
Purchased and inherited	8	13	13	14	15	13	13	18
Other	14	20	1	4	11	10	2	6

* NC — north central; NE — northeastern; NP — northern piedmont; NW — northwestern; SC — south central; SE — southeastern; SW — southwestern; WE — western.

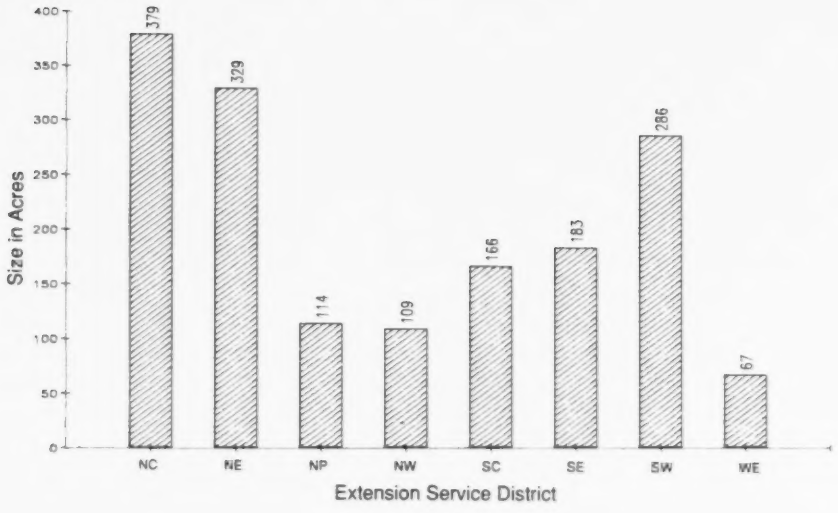


Figure 2. Average farm size by Extension Service district.

Off-Farm Work

Figure 3 indicates a clear relationship between percentage of income derived from farming and off-farm work. Only 10 percent of farmers who earned more than 90 percent of total income from farming reported any off-farm work in 1986 compared to 31 percent of the middle group and 62 percent of those least dependent on income from farming. Respondents in the eight Extension Service districts also differed by the amount of off-farm work. Although about 42 percent of all survey respondents reported off-farm work in 1986, half or more of the farm operators in the northern piedmont and northwestern districts engaged in some off-farm work (Figure 4). If engaging in 200 or more days of off-farm work makes one a "part-time" farmer, then about one-quarter of all respondents could be described by that term. Of those farmers reporting any off-farm labor, 61 percent worked off the farm for 200 or more days. In other words, a majority of those working away from the farm for pay were working full time in off-farm jobs.

Of the 652 married respondents, 294 (45 percent) reported that the spouse (usually the wife) worked off the farm in 1986. There were no statistically signifi-

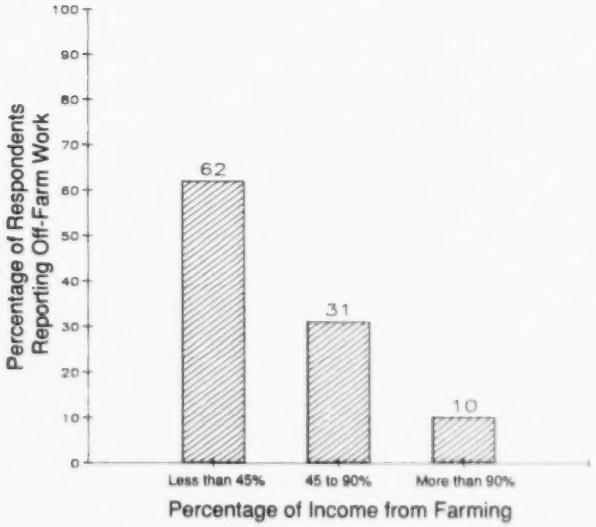


Figure 3. Percentage of respondents reporting any off-farm work in 1986, grouped by percentage of income derived from farming.

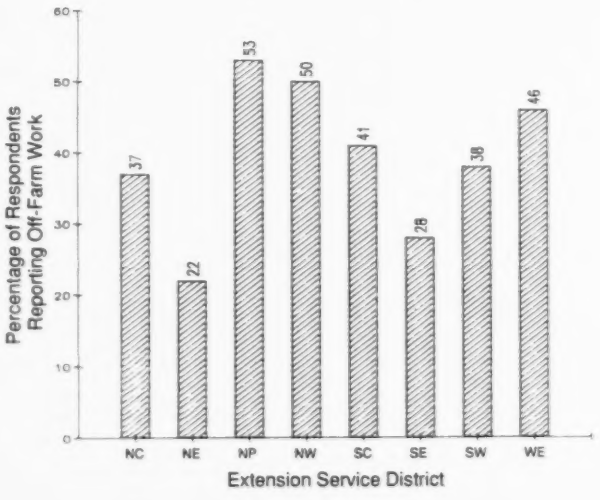


Figure 4. Percentage of respondents reporting any off-farm work in 1986, grouped by Extension Service district.

cant differences in the number of days of off-farm work by spouses among either the Extension Service districts or the income-from-farming categories. Like the farm operators, those spouses reported as having any off-farm work tended to have full-time jobs. Seventy percent of spouses who were reported to have off-farm jobs worked 200 or more days at their jobs. When asked if the amount of off-farm work by their spouses had increased, decreased, or stayed the same over the past two years, 7 of 10 operators indicated that it had stayed the same. Twenty percent of respondents reported an increase in off-farm work by their spouses.

The extent of off-farm work has important implications for rural development programs and policies. Farm operators with full-time off-farm jobs may need production systems that allow them to balance the labor demands of their farm with the demands of the off-farm job. Operators and spouses alike may benefit from increased training and the development of skills that would allow them to be more competitive in regional labor markets.

Hired Labor

Two-thirds of all respondents reported hiring labor for the farming operation in 1986. Farmers more dependent on their agricultural income were more likely to use hired labor (Figure 5) and generally employed those workers for more days than did those less dependent on farm income. Among Extension Service districts, the percentage of farmers using any hired labor ranged from 82 in the north central to 49 in the southwestern district (Figure 6).

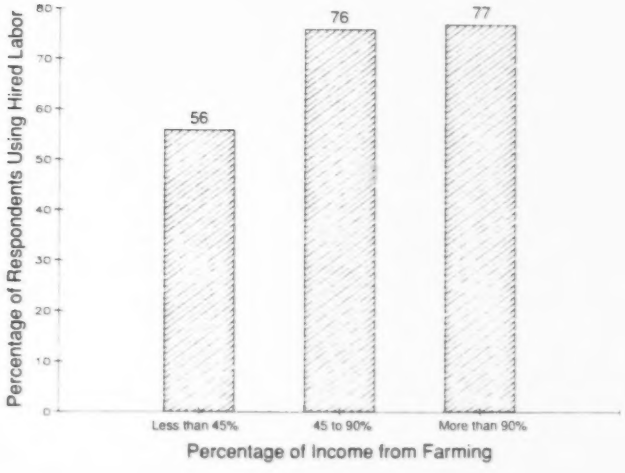


Figure 5. Percentage of respondents using hired labor, grouped by percentage of income derived from farming.

Income

Respondents reported total family income in one of four broad categories (Figure 7). About 36 percent of those reporting indicated an annual total family income of less than $20,000 in 1986. On the other end of the scale, almost 20 percent had incomes of $50,000

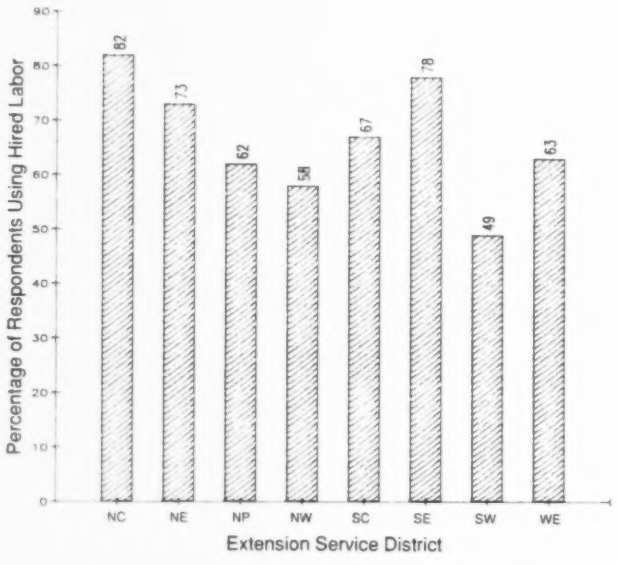


Figure 6. Percentage of respondents using hired labor, grouped by Extension Service district.

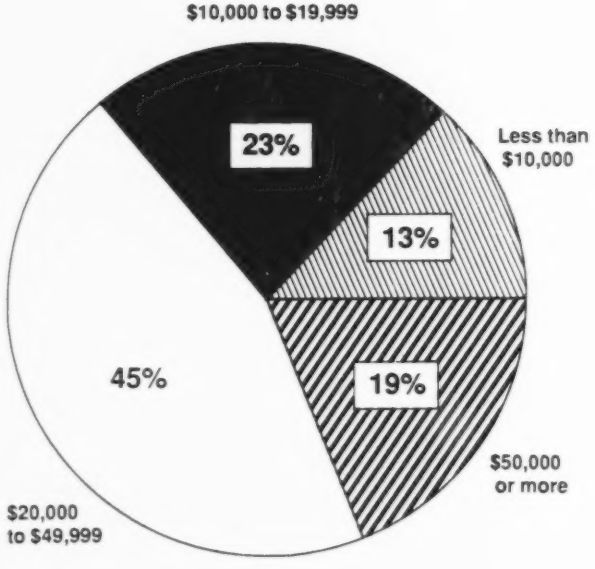


Figure 7. Total family income of respondents in 1986.

or more. Income distribution among farm families did not differ significantly by Extension Service districts, but there was variation among the three categories of income percentage derived from farming (Table 4). The highest percentage of respondents with upper incomes ($20,000 and above) was found in the group deriving 45 to 90 percent of their total income from farming.

There also was substantial diversity within each income-from-farming category. Farmers with most of their income (more than 90 percent) from farming may be composed of two significantly different groups — those who earn substantial income from farming alone and those who earn little from farming and have no other significant income sources. The income figures also may demonstrate the extent of economic difficulties in agriculture, especially during 1986 when drought in many areas added to other problems. Forty-one percent of farmers most dependent on income from the farm reported less than $20,000 in income from all sources in 1986.

Table 4. Total Family Income in 1986 by Percentage of Income from Farming

Total Family Income	Percentage of Income from Farming		
	More than 90 Percent	45 to 90 Percent	Less than 45 Percent
Less than $10,000	18	7	13
$10,000 to 19,999	23	24	22
$20,000 to $49,999	38	46	48
More than $50,000	21	23	17

Future of Farming

When asked "How do you see your future in farming?" about 60 percent of sample respondents replied "Future doubtful" (Figure 8). Another 26 percent saw the future as hopeful, 11 percent were "satisfied with the way things are," and fewer than 4 percent indicated that they would not farm in the future.

Because it seemed likely that farm operators with either higher total family incomes or higher percentages of income from farming would be more hopeful about the future than other farmers, responses were cross-tabulated on these three questions. Although families with lower incomes were more doubtful and those with higher income more hopeful, a substantial proportion of respondents in all income categories saw a doubtful future in farming (Figure 9). Similar results were found when responses were compared across the three categories of percentage of income derived from farming (Figure 10).

Responses to the question on the future of farming were also compared with the number of days the operator worked on and off the farm. Those with the fewest on-farm days and those who worked 150 to 199 days on the farm were more likely to be doubtful about the future (69 and 68 percent), but a substantial proportion of respondents in all categories were doubtful about the future (Figure 11). Comparisons of responses about the future with the amount of off-farm labor yielded similar results. Operators with no off-farm work were as likely to be doubtful about their future in farming as those with 200 or more days of off-farm work (Table 5).

Respondents were also asked "Do you see farming as a real option for the next generation?" Almost two-thirds said no, another 23 percent responded yes,

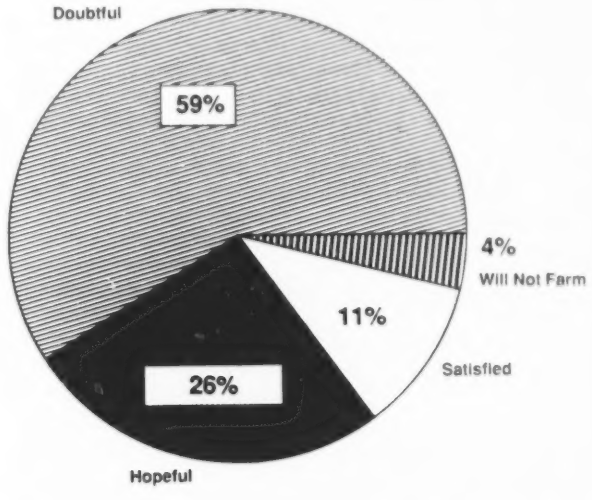


Figure 8. Responses to the question, "How do you see your future in farming?"

Table 5. View of Future in Farming by Respondents Engaging in Various Amounts of Off-Farm Work

Number of Days of Off-Farm Work in 1986	Future Doubtful	Future Hopeful	Satisfied with Way Things Are	Will Not Farm
	(percentage of respondents)			
None	59	24	11	5
1 to 49	53	43	0	3
50 to 99	67	22	11	0
100 to 149	56	25	9	9
150 to 199	50	40	10	0
200 or more	64	24	12	1

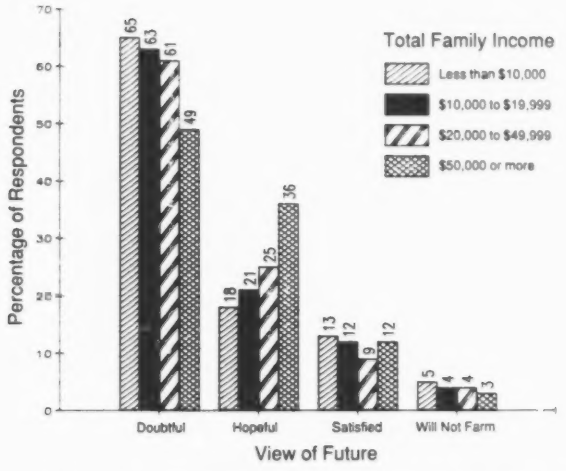


Figure 9. Perceptions of their future in farming by respondents categorized by total farm income.

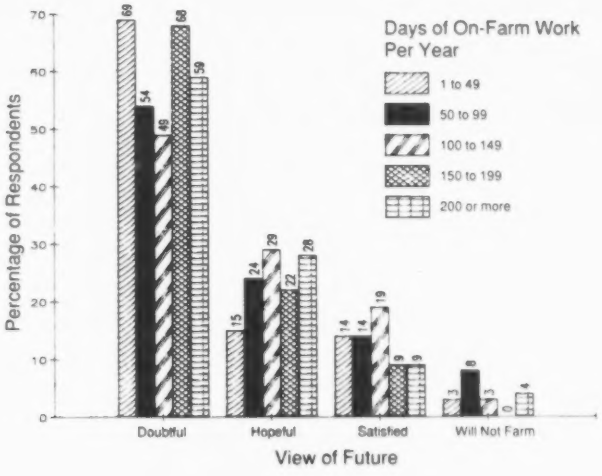


Figure 11. Perceptions of their future in farming by respondents categorized by amount of on-farm work.

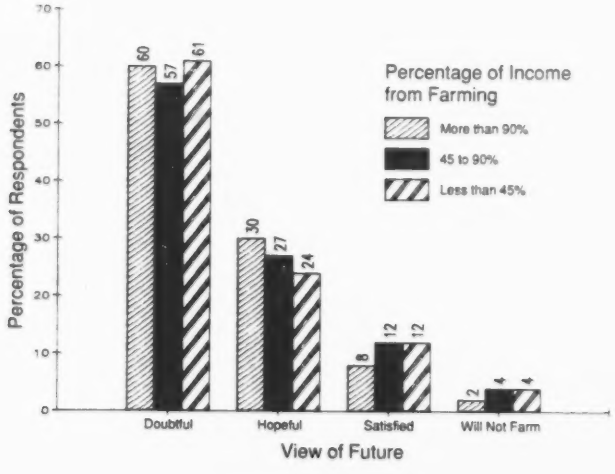


Figure 10. Perceptions of their future in farming by respondents categorized by percentage of income derived from farming.

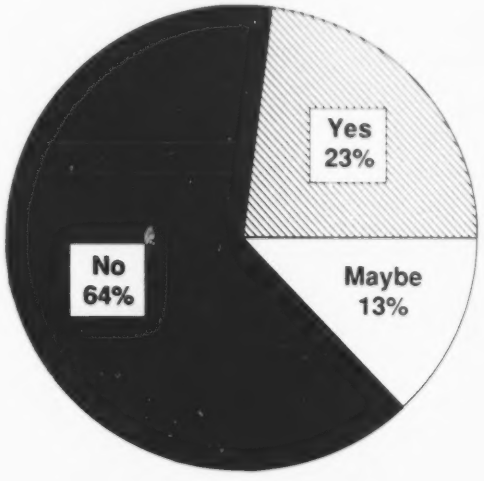


Figure 12. Responses to the question, "Do you see farming as a real option for the next generation?"

and the remaining 13 percent were unsure (Figure 12). Cross-tabulation of these responses with total family income revealed no major differences by income category, although higher income farmers were less likely to say no than were lower income farmers (57 percent to 66 percent). Also, there were no significant differences in responses to this question by percentage of income from farming, number of days of off-farm work, or number of days of on-farm work. A clear majority of all of these groups did not see farming as an option for the next generation.

The question about farming as an option for the next generation was followed by an open-ended question asking the respondents to explain their answers (Table 6). Most of the respondents who answered that farming *is* a viable option for the next generation saw agriculture as a necessary industry that will provide adequate income as economic conditions improve. On the other hand, respondents who did not see farming as an option most commonly mentioned inadequate incomes, high expenses, and poor markets for their products.

Finally, respondents were asked "If you could go back and start all over again, would you still go into farming?" In contrast to the general pessimism expressed in earlier questions, two-thirds of the farm operators answered yes. Among those who said yes, a majority mentioned reasons that reflected positive attitudes toward farming, such as "living the good life" or "enjoying the freedom" it provides. Among the farmers who responded no to this question, the reasons were almost equally split between "too much uncertainty in farming" and "too much work and too little pay." Clearly, this question tapped a dimension different from that in the question about the future of farming. While the one-third of farmers who would not farm again focused primarily on economic reasons, the majority who would remain in farming focused on nonmonetary aspects such as being one's own boss or working outdoors.

To summarize, some respondents would be farmers again if they could start over because of the good life and freedom that employment in agriculture provides. However, many respondents saw a doubtful future in farming and did not view it as a viable option for the next generation. As a way of life, agriculture has strong support, but this support is tempered by perceptions that the current situation does not make farming a viable alternative for the next generation.

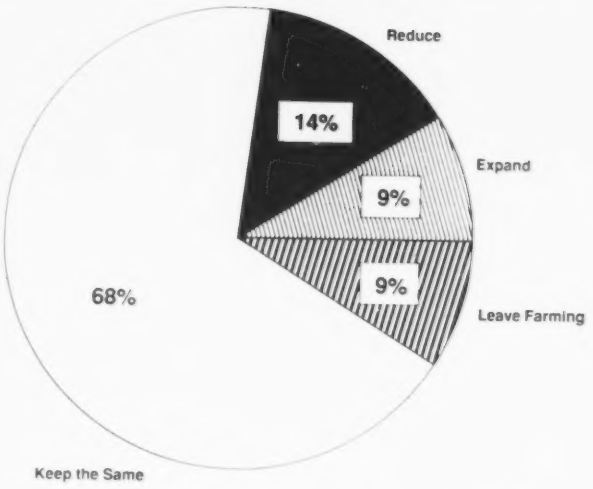


Figure 13. Respondents' plans for their farms over the next two years.

To obtain a clearer picture of farmer reactions to changes in agriculture, respondents were asked about their plans for the next two years (Figure 13). Over two-thirds of the farmers planned to keep their operation about the same, 9 percent planned to leave farming, another 9 percent planned to expand, and 14 percent planned to reduce their farming operations. Proportionately fewer farmers who relied most on their farm income (more than 90 percent from farming) planned to leave agriculture, but farmers in the middle category (with 45 to 90 percent of their income from farming) were most likely to either plan expansion or leave agriculture and least likely to plan a

Table 6. Reasons Given for Why Farming May or May Not Be an Option for the Next Generation

Will Be a Viable Option		Will Not Be a Viable Option	
Reason	Percent	Reason	Percent
Farming is a necessity; people must eat	54	Not profitable; inability to make a living	46
Farming provides adequate income	19	Expenses are too high	12
Economic conditions will improve	11	Poor markets for products	9

reduction in their farm operation (Figure 14). Some farmers in this middle category may have seen their viable options as "getting bigger or getting out." There were no apparent differences among Extension Service districts.

The question on plans for the farm operation was followed by three sets of questions. The specific set asked of each respondent depended on whether the farmer planned to expand or reduce the farm operation or to leave agriculture altogether during the next two years (Table 7). For each response, farmers were asked if they would be likely to exercise a particular option. These were not exclusive options — many respondents answered yes to more than one option. Of those planning to expand, almost half planned to rent more land or invest in new livestock facilities. Renting less land was the most popular option for those planning to reduce their operation. Although the majority of those planning to leave agriculture foresaw retirement from farming within the next two years, that option was often combined with others. Of those planning to leave, 40 percent would exit for other employment, about one-quarter planned to sell the farm, slightly more than one-fifth feared inability to make mortgage payments, and 7 percent thought bankruptcy proceedings might be in their immediate future.

A majority of respondents reported that they expected one or more family members to take over the farm operation upon their retirement. Retiring farmers also expected to continue living on their present farms. This suggests that the farmer component of the rural elderly will continue to increase, at least in absolute terms, perhaps thereby increasing demands for health and social service programs to meet their particular needs. Because a family member is expected to continue the farm operation, programs on estate planning and the intergenerational transfer of property within the family might be areas in which the Extension Service should maintain strong programs.

Table 7. Planned Options for the Farm

Plan	Option	Percentage of Respondents
Expand (N = 65)	Rent more land	48
	Build new livestock facilities	48
	Buy more equipment	39
	Buy more land	37
Reduce (N = 102)	Rent less land	56
	Sell some land	20
Leave (N = 62)	Retire	65
	Find other employment	41
	Sell farm	26
	Unable to make mortgage payment	21
	File for bankruptcy	7

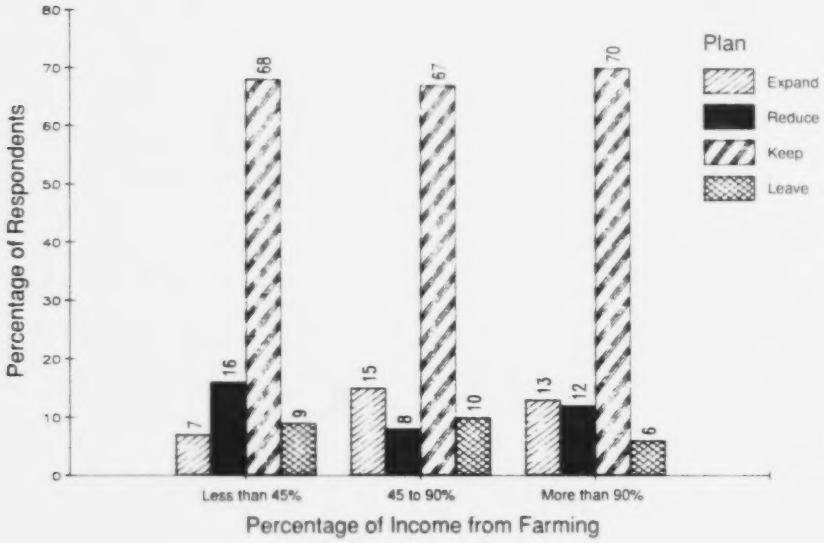


Figure 14. Plans for their farms by respondents categorized by percentage of income derived from farming.

13

Stress in Agriculture

Many recent articles, editorials, and television features have addressed the subject of personal stress and community tension resulting from the current economic situation in agriculture. Disruption within farm families and difficulties among rural communities dependent on agriculture have been well documented. Information on these topics was obtained from the survey respondents through a series of questions designed to gauge farmers' perceptions of personal stress and community tension and their views on the level of community support available to farm families.

Community Tension

Respondents were asked whether they agreed with a series of statements regarding community tension and problems among farm people.

- Ninety-three percent agreed that "financial difficulties among farm families result in more stress."
- Seventy-six percent agreed that "there seems to be more disagreement and tension between married couples nowadays."
- Seventy percent agreed that "children are having more problems at school than they used to."
- Fifty-three percent agreed that "friends and neighbors seem to have more conflicts these days."
- Fifty percent agreed that "the people I know just don't get along as well as they used to."
- Forty-three percent agreed that "children and young people in this community get into a lot of trouble."

To compare perceived community stress effectively with other items of interest, a summary measure was created from the six individual questions. An "agree" response was coded as 1 and all other responses (disagree, uncertain) were coded as 0. The answers for each respondent were summed to form a "community tension" index with possible scores ranging from 0 to 6. The mean index score for all respondents was 3.8, with half of the respondents having an index score of 4 or more. Individual scores also were divided into low , medium, and high levels of community tension. About 20 percent of the total sample reported low levels of community tension, 42 percent reported medium levels, and 39 percent reported high levels.

The community tension index scores were cross-tabulated with total family income, percentage of income from farming, and Extension Service districts. As shown in Figure 15, the two lower income groups had higher average community tension scores than the two higher income groups, but the differences were not statistically significant. At least one-third of respondents in all income categories reported high levels of community tension. Figure 16 presents the community tension scores by percentage of income from farming. Again, there were no statistically

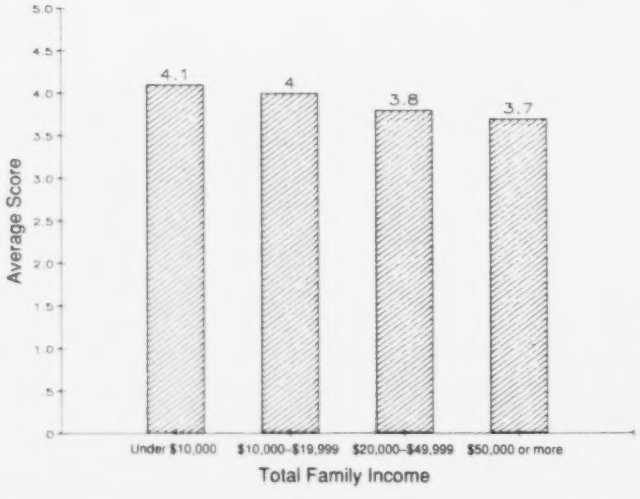


Figure 15. Average community tension scores for respondents categorized by income.

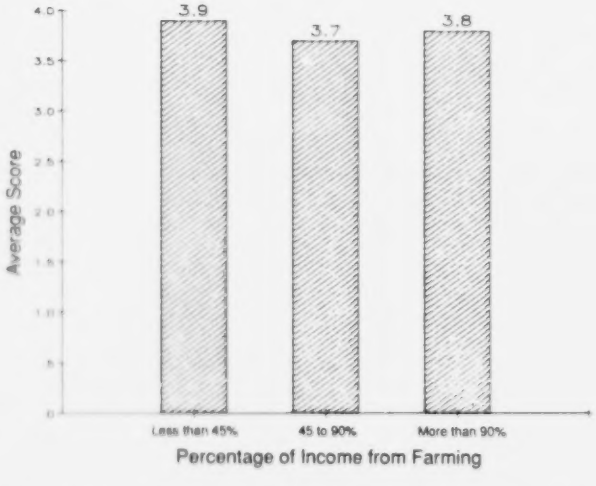


Figure 16. Average community tension scores for respondents categorized by percentage of income derived from farming.

significant differences among categories. About 37 percent of respondents in each of the three categories reported high levels of community tension. A similar picture is displayed in Figure 17. Almost one-third of respondents in each of the eight Extension Service districts were in the high community tension category, with average community tension scores ranging from 3.7 to 4.1.

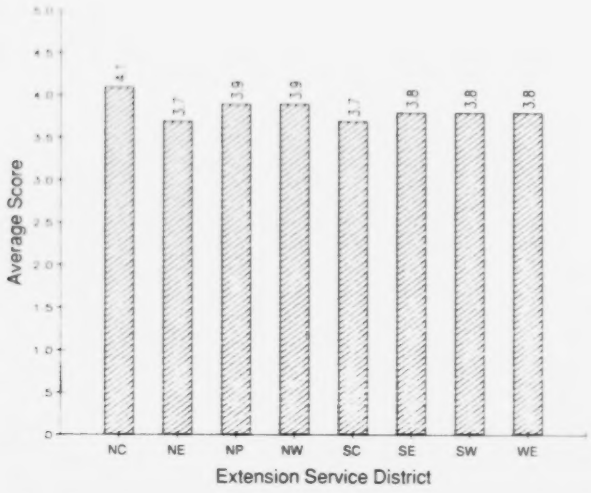


Figure 17. Average community tension scores for respondents in the eight Extension Service districts.

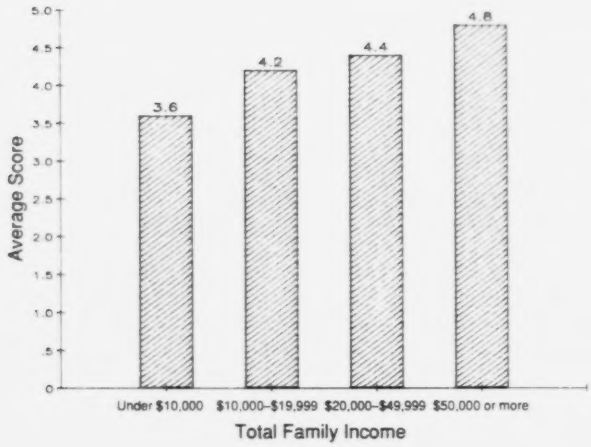


Figure 18. Average levels of personal support as perceived by respondents categorized by total family income.

Adequacy of Emotional and Financial Support

Farm operators were asked to consider their own situations and to evaluate the adequacy of emotional or financial support available to their families from various community groups and organizations. A series of statements about different groups and organizations was read and each respondent asked whether support was adequate.

- Eighty-nine percent received adequate support from other family members.
- Eighty-eight percent received adequate support from churches.
- Eighty-three percent received adequate support from friends and neighbors.
- Sixty-three percent received adequate support from local voluntary organizations.
- Fifty-five percent received adequate support from schools.
- Forty-eight percent received adequate support from human service agencies.

Although all the percentages of respondents reporting adequate support are relatively high, there is a significant difference between the support received from family, friends, and church and that received from schools, local voluntary organizations, and human service agencies. Also, it is important to note that the sample was composed of active farm operators and did not include persons who had left agriculture. It is likely that lower levels of perceived support would be reported by those who have moved out of farming.

A "personal support index" was created in the same way as the community tension index. A yes response was coded as 1; no and don't know responses were coded as 0. The answers for each respondent were added to measure perceived personal support. The mean personal support index score for all respondents was 4, with possible scores ranging from 0 to 6. Again, individual scores were divided into low, medium, and high levels of personal support. A majority of respondents (52 percent) reported high levels of personal support, while about 29 percent reported low levels.

There were statistically significant differences in the levels of personal support between total family income and Extension Service district categories. Forty-five percent of the low-income group had scores indicating a high level of support, compared to 53 percent or above for the other family income groups. Similarly, 43 percent of the group with incomes of less than $10,000 had scores indicating a low level of personal support, while percentages ranged from 22 to 28 for the other three income categories. Figure 18 shows that the lowest income group (under $10,000)

had a lower average level of personal support than did the other three groups. Levels of perceived personal support also varied by Extension Service district. The percentage of respondents reporting high levels of personal support was more than 50 in the north central, northeastern, northwestern, southeastern, and western districts but only about 38 percent in the northern piedmont. Average personal support scores ranged from 4.6 in the south central to 3.8 in the southwestern district (Figure 19).

Personal Stress

Respondents answered yes or no to a series of eight statements about personal stress during the previous month. To minimize bias, half the questions were worded so that a negative response indicated stress and half so that a positive response indicated stress. Results from the statewide sample of farmers indicated that during the previous month:

- Forty-seven percent were angry or angered because of things that had happened beyond their control.
- Thirty-six percent felt nervous and stressed.
- Twenty-nine percent felt that things were not going their way.
- Twenty-eight percent had been upset because of something that happened unexpectedly.
- Twenty-seven percent felt unable to think clearly about their financial situation.
- Twenty-five percent felt that they were not effectively coping with important changes occurring in their lives.
- Fifteen percent were unable to control the way they spent their time.
- Five percent felt unable to control irritations in their lives.

As with the community tension and personal support indices, an "index of personal stress" was created by coding the replies that indicated stress as 1 and all others as 0. For the statewide sample, the index had a mean of 2, with scores ranging from 0 to 8.

There were no statistically significant differences in personal stress scores among farmers by total family income, percentage of income from farming, or Extension Service district. In other words, similar percentages of respondents reported about the same levels of personal stress regardless of their income level, percentage of income from farming, or geographic area. The only factor that seemed related to the level of personal stress was the number of days of on-farm work. The primary difference was between farmers who reported 200 or more days of on-farm work and those who reported fewer days. More than 40 percent of these "full-time" operators reported a high level of personal stress (a score of from 3 to 8), while percentages for other farmers reporting high levels of personal stress ranged from about 30 to 26. Figure 20 displays average personal stress score by the number of days of on-farm work.

In summary, responses to questions on community tension, adequacy of financial and emotional support (personal support), and personal stress were analyzed to gauge farmers' perceptions of these issues. Results indicated that about 33 percent of the sample reported a high level of community tension.

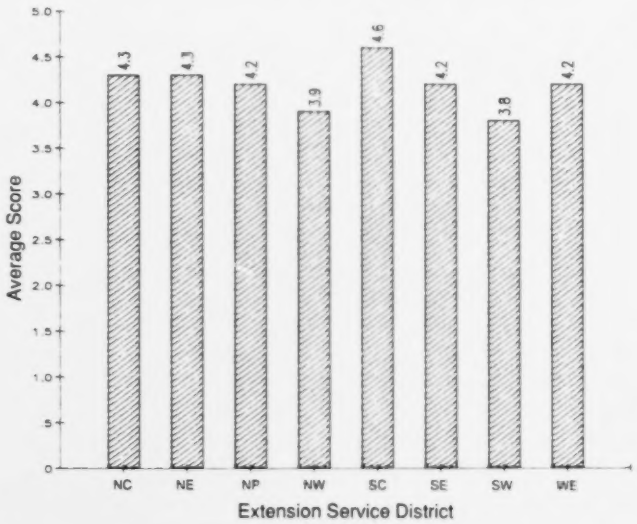


Figure 19. Average level of personal support as perceived by respondents in the eight Extension Service districts.

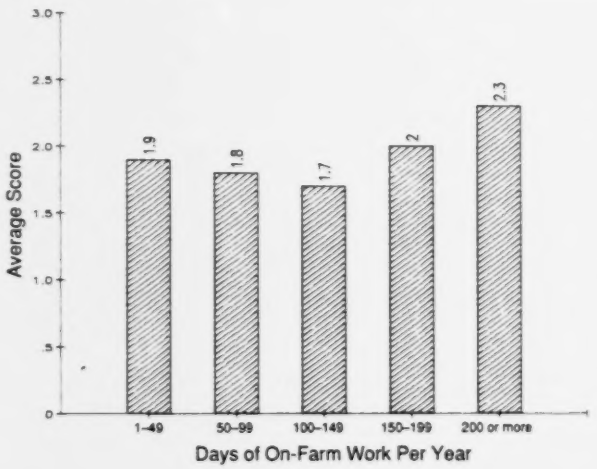


Figure 20. Average level of personal stress as reported by respondents categorized by amount of on-farm work.

Of those reporting high community tension, about a third indicated that the level of personal support was low and another 20 percent indicated that the level of support was moderate. Similar results were found for the personal stress index — 37 percent of the respondents with high levels of personal stress indicated that personal support was low and 19 percent indicated that support was moderate.

Farm Financial Record Keeping

Over four-fifths of respondents reported keeping financial records for their farm. Sixty-five percent of this group said that the farm operator kept the records, 15 percent reported that the spouse did so, and 16 percent indicated that someone outside the family kept the farm records (Figure 21). Five percent of sampled farmers used the Extension Service-sponsored mail-in record system and 10 percent used the Extension Service-sponsored loose-leaf (at home) record-keeping system. Six percent reported using a lender-provided record-keeping system.

About one-third of respondents reported having sought information or advice on keeping farm financial records within the last two years. The most popular source was the North Carolina Agricultural Extension Service (Table 8), used by 41 percent of all respondents who received information. Other important sources of advice were accountants, tax preparers, and lenders, (Farmers Home Administration, 6 percent; Production Credit Association, 3 percent). This experience varied significantly among various regions in the state. Half (51 percent) of the respondents from the northeastern and north central districts received financial information or advice, but less than a third in the southeastern and northwestern districts did so (Figure 22).

Table 8. Farmers' Sources of Information on Farm Financial Records

Information Source	Percentage of Respondents
Extension agent or office (local, county, or state)	41
Accountant, CPA	21
Other	11
North Carolina State University	7
Farmers Home Administration	6
Periodicals, magazines	6
Tax advisor or preparer	5
Agricultural Stabilization and Conservation Service	2
Production Credit Association	2

Financial statements are basic tools of financial management. They provide decision makers with detailed information concerning the financial and economic state of their businesses. Three widely used financial statements are the balance sheet, the income statement, and the cash flow statement. These statements are designed to provide managers with crucial information on the solvency, profitability, and liquidity of the business. Despite the fact that an overwhelming majority of farmers keep farm financial records, no more than one-third reported using any particular form of financial statement (Table 9). The most commonly used type was the income statement (used by 32 percent), followed in popularity by the balance sheet (28 percent) and the cash flow statement (24 percent).

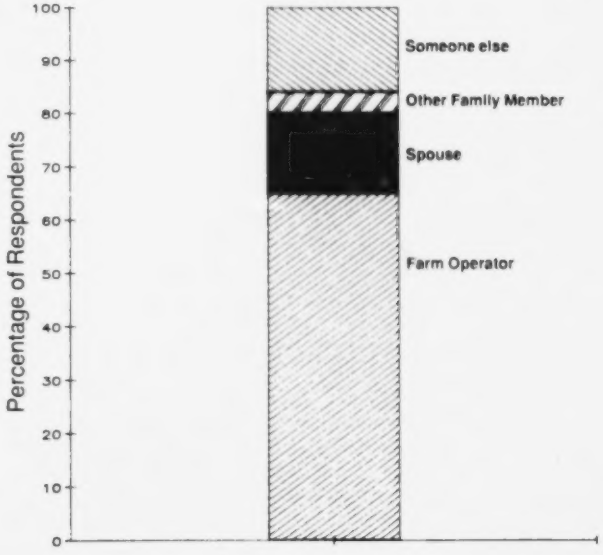


Figure 21. Person who keeps financial records for the farm.

Table 9. Use of Financial Statements in the Farm Business

Approach to Record Keeping	Percentage of Respondents Using Method
An accountant	45
Income or profit-and-loss statement	32
Separate bank accounts for farm and household expenses	30
Balance Sheet	28
Cash flow statement	24
Extension-sponsored loose-leaf (at home) record-keeping system	10
Lender provided record-keeping system	6
Extension-sponsored monthly mail-in record system	5

Another important financial management technique is keeping separate bank accounts for farm and household expenses. Thirty percent of the respondents said they used this method. Again, responses varied significantly by Extension Service district (Table 10) and percentage of income from farming (Table 11). Farmers in the north central and northeastern districts were more likely to use these financial management tools than were farmers in other parts of the state. Farmers who received between 45 and 90 percent of their income from farming also were more likely to use balance sheets or cash flow statements than were other farmers. Farmers who received less than 45 percent of their income from farming were the least likely to use financial statements or to keep farm and household finances separated.

Farm Household Financial Record Keeping

Over half (53 percent) of the respondents reported keeping financial records for the family. One-fourth of farm families reported developing a spending plan or family budget, and 74 percent of these monitored their expenses and compared them to the budget (Figure 23). In the majority (58 percent) of all farm families, records were kept by the farm operator, with the spouse taking this responsibility in a quarter of the households that kept family financial records. Family financial records were more likely to be the spouse's responsibility in households deriving more than 45 percent of their income from farming (Figure 24).

Retirement planning is closely linked to financial management. Two-thirds (69 percent) of respondents reported at least one source of retirement income. Households deriving more than 90 percent of their income from farming were significantly less likely to have a source of retirement income than were households less reliant on farm income (Figure 25). The most mentioned source of retirement income for all farm families was social security benefits (Table 12). Other important sources of retirement income included retirement accounts and programs (44 percent

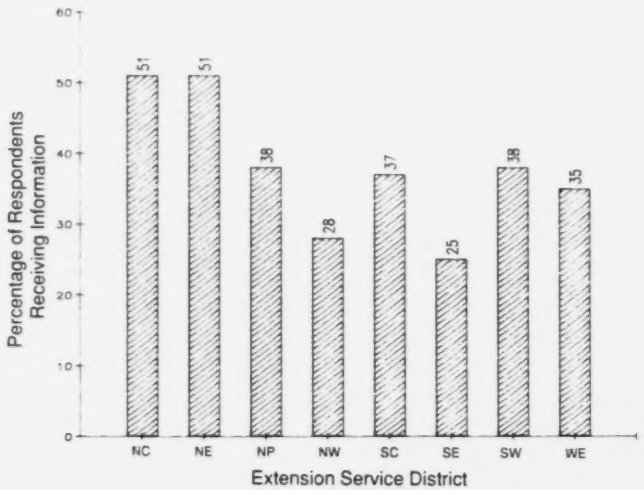


Figure 22. Percentage of respondents in each Extension Service district who had recently received information on farm financial records.

Table 10. Use of Financial Tools by Respondents in the Eight Extension Service Districts

Financial Tool Used	Extension Service District							
	NC	NE	NP	NW	SC	SE	SW	WE
	(percentage of respondents)							
Balance sheet	43	38	22	21	24	28	30	31
Income statement	47	40	31	27	32	31	27	30
Cash flow statement	41	22	23	22	13	26	24	24
Separate accounts	43	47	32	22	24	28	31	26

Table 11. Use of Financial Tools According to Proportion of Total Income Derived from Farming

Financial Tool Used	Percentage of Income from Farming		
	More Than 90 Percent	45 to 90 Percent	Less Than 45 Percent
	(percentage of respondents)		
Balance sheet	29	38	25
Cash flow statement	28	32	20
Separate accounts	35	35	26
An accountant	51	56	39

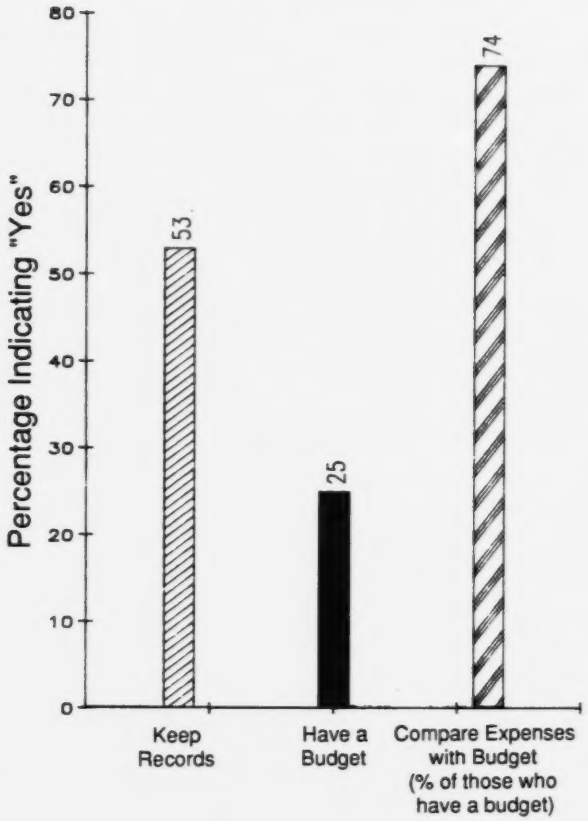


Figure 23. Extent of family financial record keeping among farm families.

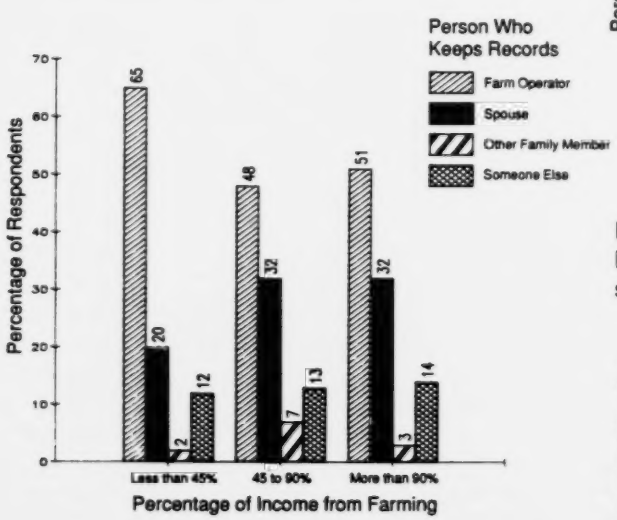


Figure 24. Person who keeps the family financial records among respondents categorized by percentage of income derived from farming.

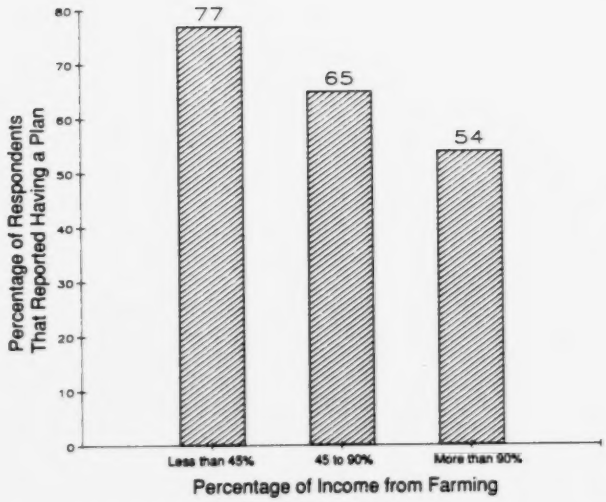


Figure 25. Percentage of respondents who reported having some kind of financial retirement plan, grouped by percentage of income derived from farming.

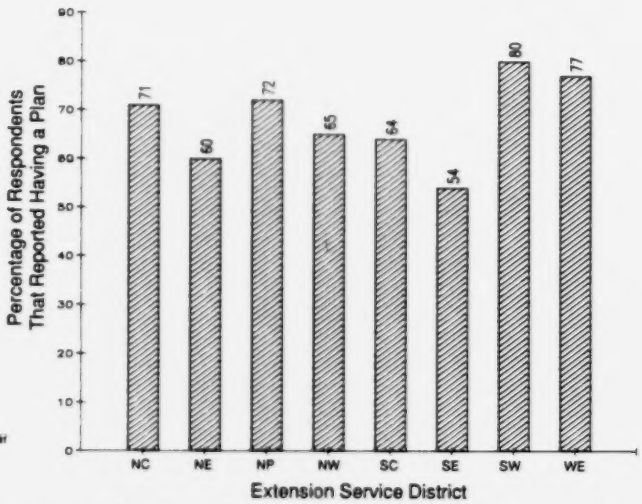


Figure 26. Percentage of respondents in each Extension Service district who reported having some kind of financial retirement plan.

Table 12. Projected Source of Retirement Income

Source	Percentage of Respondents
Social security benefits	63
Retirement account or program	44
Savings account	33
Interest or dividends	25
Rents	14
Disability benefits	7
Veterans benefits	4
Other	3

of all respondents), savings (33 percent), interest income (25 percent), rents (14 percent), and disability benefits (4 percent). There were significant variations among Extension Service districts in availability (Figure 26) and sources (Table 13) of retirement income. Farm families in the northeastern and southeastern districts were least likely to cite social security benefits as an anticipated source of retirement income. However, households in these districts and the north central district were more likely than households in other areas to count on rents upon retirement. Farm families in the western, southwestern, and northern piedmont districts were more likely to count on social security benefits and on interest and dividend income for retirement income.

Table 13. Projected Source of Retirement Income for Respondents in the Eight Extension Service Districts

Source	Extension Service District							
	NC	NE	NP	NW	SC	SE	SW	WE
	(percentage of respondents)							
Social security	67	47	63	62	59	53	75	71
Interest and dividends	21	20	29	22	15	24	33	32
Rents	25	16	14	12	8	19	10	12

Need for Extension Service Programming in Financial Management

It is often said that farmers rely on the Extension Service for technical information but not for management education. Results of this survey, however, indicate that farmers both need and want such education. Indeed, many farm families appear to have arrived at a teachable moment in terms of their concern about their financial status and that of others in the agricultural economy. Two-thirds (68 percent) of respondents reported that they were moderately or very concerned about their farms' financial condition. Farmers whose households relied more heavily on farm income were more concerned than were farmers whose households were less reliant on such income (Figure 27). Three-fourths of farmers in the north central, northeastern, south central, and southeastern districts reported being at least moderately concerned about their farms' financial condition (Table 14). Farmers in the three western districts reported the lowest level of concern. Even in these areas, however, almost one-third reported being very concerned about the financial condition of their farms.

Respondents were also asked to rate the current financial difficulties of North Carolina farmers, agribusiness firms, and banks on a scale from 1 to 10, with 1 indicating the least difficulty and 10 the most. Overall, 30 percent of respondents rated the financial difficulties of farmers as high (8 to 10), 20 percent rated the financial difficulties of agribusiness firms

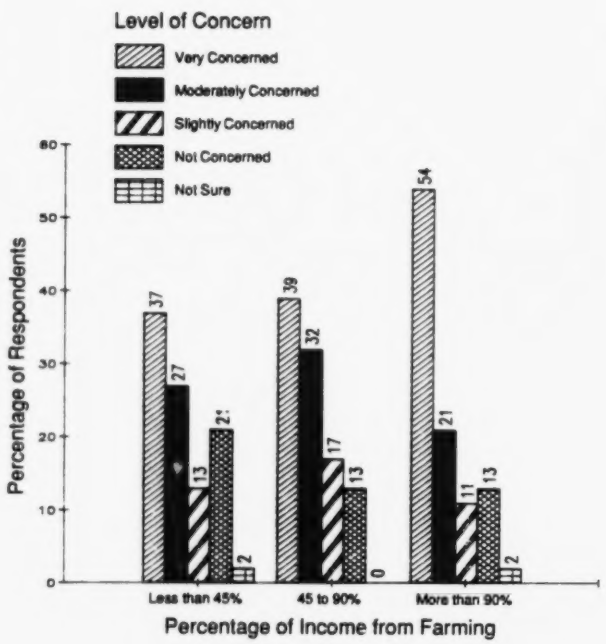


Figure 27. Percentage of respondents who report being concerned about their farm's financial condition, grouped by the percentage of income derived from farming.

as high, and one-fourth (27 percent) thought banks in their area were in great financial difficulty. Figure 28 shows the average rating for each of the three groups. Farmer financial difficulties were viewed as worst in the eastern districts and of less concern in the western districts (Figure 29). Agribusiness financial difficulties were thought to be worse by respondents in the northeastern, south central, and southeastern districts than in other areas (Figure 30). There were no statistically significant differences in perceptions of the financial difficulty of banks among Extension Service districts.

These results indicate that the Extension Service should consider expanding programs for less traditional clientele groups, including agricultural lenders and agribusiness managers. Programs that target lenders include the annual Southeastern Agricultural Lenders School in Clemson, South Carolina, and the quarterly survey of agricultural credit conditions. Traditionally, bankers from North Carolina have not

Table 14. Concern About Their Own Farm's Financial Condition Expressed by Respondents in the Eight Extension Service Districts

Level of Concern	Extension Service District							
	NC	NE	NP	NW	SC	SE	SW	WE
	(percentage of respondents)							
Very concerned	53	64	44	33	48	53	33	28
Moderately concerned	22	13	24	32	25	22	24	34
Slightly concerned	14	9	15	17	12	9	14	8
Not concerned	9	13	13	17	15	16	28	28
Not sure or don't know	2	0	4	1	0	0	1	2

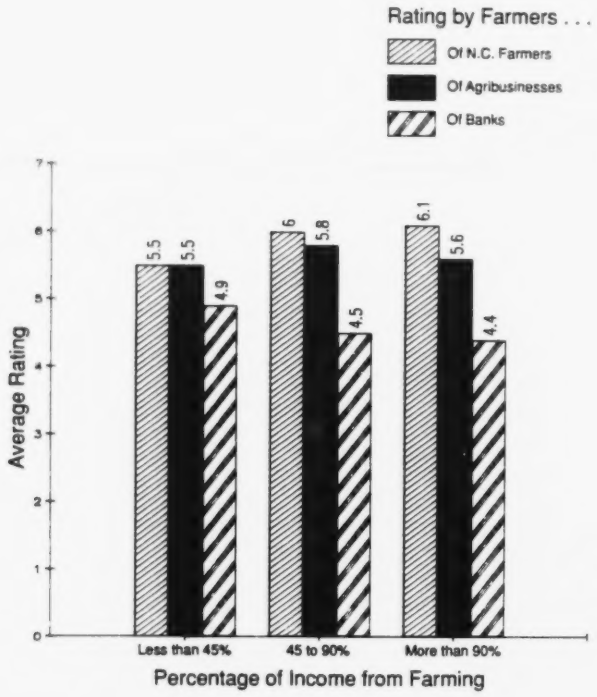


Figure 28. Average rating of current financial difficulties by respondents categorized by percentage of income derived from farming.

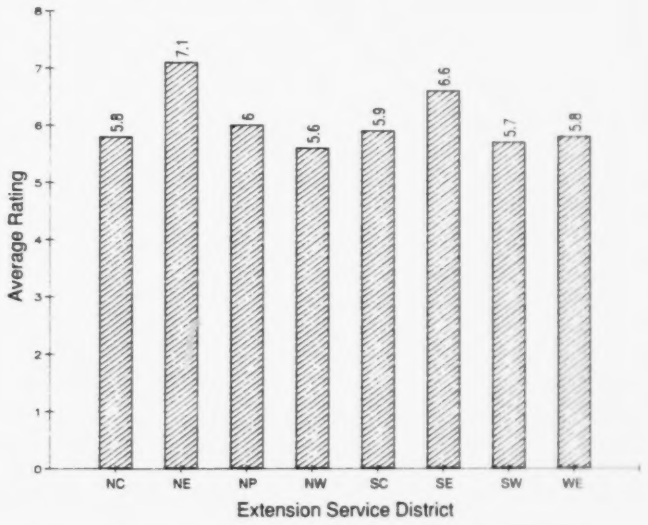


Figure 29. Average rating of North Carolina farmers' current financial difficulties by respondents in each Extension Service district.

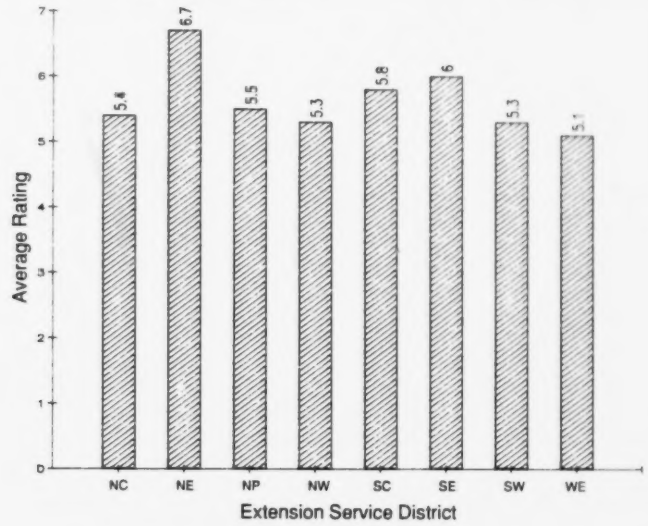


Figure 30. Average rating of North Carolina agribusiness's current financial difficulties by respondents in each Extension Service district.

Table 15. Expressed Need for Selected Extension Service Programs

Program	Percentage That Indicated Program Is Needed
Planning for retirement	88
Keeping and using financial records as management tools	86
Programs for estate and inheritance planning	80
Income tax management program	79
Programs on understanding loan applications	79
Programs for understanding and using financial statements	77
Programs on understanding bankruptcy	71
Investment analysis programs	66

participated in the Clemson program. Reasons for this lack of participation should be explored.

Although 81 percent of farmers said they kept financial records for their farms, 86 percent said the Extension Service should offer programs in keeping and using financial records as management tools (Table 15). Large majorities also expressed a need for other financial management programs including income tax management (79 percent), understanding and using financial statements (77 percent), and understanding loan applications (79 percent). Most farmers seem to recognize that financial records should be kept but do not understand how they can be used to improve the financial condition of the farm and ultimately the standard of living of the farm family. These attitudes would seem to indicate that Extension Service programs should focus more on the practical aspects of financial management and less on the need to keep records. Programs should be accessible to a large number of farmers and should be oriented toward results. An example of such a program is the FINPACK package from Minnesota and the budget planner developed by Extension Economics at North Carolina State University. These programs offer large amounts of useful output for a relatively small amount of effort and expense.

Only a relatively few families give serious attention to planning and controlling household expenses. Thirty percent reported keeping separate farm and household bank accounts and only 25 percent maintained a family living budget. Apparently many farm families lack the knowledge and skills to make informed financial management decisions that reflect both their farm business and family financial goals. Extension Service programming should be provided to help families develop financial decision-making skills and improve the keeping of family financial records for use in managing resources. Programs in stress management should reflect the importance of improved communication and conflict resolution in financial decision making.

Another area on which the Extension Service should focus is retirement planning. Only half of farmers with more than 90 percent of their income from farming and only two thirds of all farmers said they have a source of retirement income. The overwhelming majority of farmers recognized a need for retirement planning — 88 percent said that the Extension Service should offer programs on this subject. A large majority (80 percent) also expressed a need for programs in estate and inheritance planning. However, only 66 percent of respondents thought the Extension Service should offer programs in investment analysis. With the continued aging of the farm population (the average age of survey respondents was 54), and with 52 percent of farmers expecting to leave their operation to a family member, these programs should be of increasing concern.

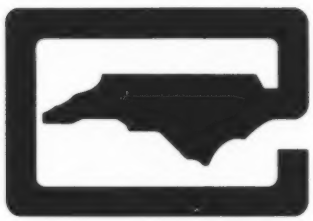
Seventy-one percent of respondents expressed a need for education concerning bankruptcy laws. Although this percentage is low compared to responses to other subject areas addressed in the survey, it is very high compared to the small percentage who said they expected to file bankruptcy within the next two years. The Extension Service should therefore continue to provide educational programs in this area, emphasizing the economic, financial, and legal causes and consequences of bankruptcy from the perspective of both the borrower and creditor.

Finally, 42 percent of the respondents indicated major concern and 26 percent moderate concern about their families' financial futures. However, a vast majority (91 percent) anticipated remaining in farming during the next two years. In addition, of the two-thirds of respondents (63 percent) who did not see farming as a real option for the next generation, more than four-fifths cited reasons related to low farm profitability. These results indicate a need for supplemental income.

The Extension Service should address this need in several ways. First, continued programs on effective production, marketing, and financial manage-

ment are more critical than ever. Extension Service programs should stress sound management principles and help farmers understand the effects of farm practices on expected profit and risk. Production specialists and economists should work together closely to ensure that this kind of information is also provided in noneconomic programming.

Second, expanded programming is recommended for farm and rural families to help them increase income from nonagricultural sources. Programs that contribute to the well-being of rural communities are also of importance to both farm and nonfarm families. By cooperating with other agencies the Extension Service can provide information on salary and wage employment and on job training opportunities. The new entrepreneurship program in home economics entitled "A Business of Your Own" can also help increase income for some of the families that continue in farming as well as for some of the 9 percent expecting to leave agriculture in the next two years.



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